ABSTRACT

When signaling over cables or other media having significant return impedance, it is generally more efficient to use two conductors to carry two simultaneous bi-directional signals differentially, rather than utilizing unidirectional communications. Bi-directional communications increases the aggregate bandwidth of a pair of conductors. A conversion circuit converts unidirectional signaling between an edge-based receiver and a transmitter to simultaneous differential bi-directional signaling. A receiver for receiving data includes an edge processor operative to make decisions using edges of a received data stream and a communication circuit coupled to the edge processor. The communication circuit is operative to convert communications with the edge processor from a first format, such as uni-directional signaling, to a second format, such as differential bi-directional signaling.